REMARKS

Claims 1-14 are pending. Of these, claims 1-10 were amended. These amendments and remarks were made to further define Applicants' invention. Reconsideration of this application in light of the amendments and the following remarks is requested. No new matter was added.

Applicant would first like to thank the Examiner for allowing claims 11-14, and allowing claims 2-5 and 7-10 if rewritten into independent form. Applicant has amended claims 1-10 to address the Examiner's rejections, but explains in full detail below.

The Examiner rejected claims 1 and 6 are rejected under 35 U.S.C.102(e) as being anticipated by Nordenstam et al. (US Patent Number 6,442,615).

Applicant has amended claims 1 and 6 to incorporate novel features indicated by the Examiner as allowable subject matter. In addition, Applicant respectfully submits that claims 1 and 6 are now allowable and not anticipated by Nordenstam et al.

Claims 2-5 and 7-10 are dependent on claims 1 and 6 and are also not anticipated and allowable over Nordenstam et al. for at least the same reasons as claims 1 and 6.

Applicant respectfully submits that the claims are now in condition for allowance. However, should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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MAILING CERTIFICATE UNDER 37 CFR §1.8(a)
I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail, with sufficient postage, in an envelope addressed to: Mail Stop Non-Fee Amendment P.O. Box 1450, Commissioner for Patents, P.O.Box 1450, Alexandria, VA 22313-1450
on August 20, 2004.

Kristine R Schumann

VERSION WITH MARKINGS TO SHOW CHANGES MADE PURSUANT TO 37 C.F.R. 1.121(c)(ii)

1. A method of allocating network resources, method comprising:

creating a model of a plurality of network nodes, a plurality of network links, and a plurality of traffic trunks;

determining available arc capacity for [an arc capacity for each commodity of a plurality of commodities;] a commodity of a plurality of commodities by subtracting from the total bandwidth of the arc the bandwidth already in use by other commodities and then dividing the difference by a bandwidth of the commodity and rounding it down to the largest integer that is smaller than the ratio of the available arc capacity;

determining a maximum flow of the commodity;

updating a link load; and

mapping a solution on the network resources.

2. The method of claim 1, wherein the model includes mapping of traffic trunks to supply and demand nodes by:

setting a plurality of ingress trunk nodes to a plurality of demand nodes;

setting a plurality of egress trunk nodes to a plurality of supply nodes; and

setting a plurality of flow units of a demand and supply pair to a number of trunks between a corresponding ingress and egress pair.

3. The method of claim 2, wherein [at least two egress nodes are set to one ingress node] supply and demand node pairs are classified to be in a single commodity if they all have the same supply node and same bandwidth per unit of required flow.

4. The method of claim 2, wherein [the determining the arc capacity is done by subtracting a total load on a link from a total bandwidth on a link and dividing by a bandwidth of the commodity and rounding down to the closest integer] supply and demand node pairs can be classified into a single commodity if they have the same demand node and same bandwidth per unit of required flow.

5. The method in claim 1, where in the updating the link load includes [setting the link load to the total flow on the link multiplied by the bandwidth and adding an existing load on the link] adding the bandwidth used by each commodity routed over that link.

6. A computer software system of allocating network resources, the system comprising:

computer instructions to create a model of a plurality of network nodes, a plurality of network links, and a plurality of trunks;

computer instructions to determine [an arc capacity for each commodity of a plurality of commodities; determining] available arc capacity for a commodity of a plurality of commodities by subtracting from the total bandwidth of the arc the bandwidth already in use by other commodities and then dividing the difference by a bandwidth of the commodity and rounding it down to the largest integer that is smaller than the ratio of the available arc capacity;

computer instructions to determine a maximum flow of the commodity;

computer instructions to update a link load; and

computer instructions to map a solution on the network resources.

7. The system of claim 6, wherein the computer instructions to create the model includes:
computer instructions to set a plurality of ingress trunk nodes to a plurality of demand nodes;
computer instructions to set a plurality of egress nodes to a plurality supply nodes; and
computer instructions to set a plurality of flow units of a demand and supply pair to a number of trunks between a corresponding ingress and egress pair.

8. The system of claim 7, further including computer instructions to [set at least two egress nodes to one ingress node] classify supply and demand node pairs to a single commodity if they all have the same supply node and same bandwidth per unit of required flow.

9. The system of claim 7, [wherein the computer instructions to determine the arc capacity includes subtracting a total load on a link from the total bandwidth of the link and dividing by a bandwidth of the commodity and rounding down to the closest integer] further including computer instructions to classify supply and demand node pairs into a single commodity if they have the same demand node and same bandwidth per unit of required flow.

10. The system of claim 6, wherein the computer instructions to update the link load includes computer instructions to [set the link to set the link load to the total flow on the link multiplied by the bandwidth and adding an existing load on the link] add the bandwidth used by each commodity routed over the link.

11. A method of allocating network resources, method comprising:
creating a model of a plurality of network nodes, a plurality of network links, and a plurality of trunks, wherein creating the model includes:
setting a plurality of ingress nodes to a plurality of demand nodes;
setting a plurality of egress nodes to a plurality of supply nodes; and
setting a plurality of flow units of a demand and supply pair to a number of trunks between a corresponding ingress and egress pair;
determining an arc capacity for each commodity of a plurality of commodities;
determining a maximum flow of the commodity;
updating a link load; and
mapping a solution on the network resources.

12. The method of claim 9, wherein at least two egress nodes are set to one ingress node.

13. The method of claim 9, wherein the determining the arc capacity is done by subtracting [a total load on a link from a total] bandwidth of the link and dividing by a bandwidth of the commodity and rounding down to the closest integer.

14. The method in claim 9, wherein the updating the link load includes setting the link load to the total flow on the link multiplied by the bandwidth and adding an existing load on the link.